New, small size MicroTCA.4 Crates

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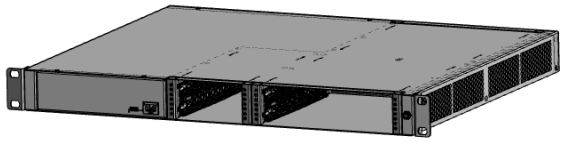
MTCA.4 CRATES

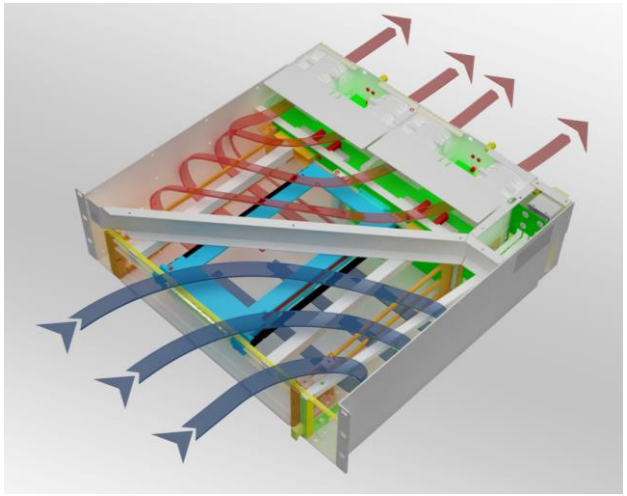
- **Current MTCA.4 Crate portfolio**
  - Several big crates with maximum number of AMC, MCH and PM slots
  - Different backplane topologies, cooling options, JSM support, AMC widths
  - MTCA.4 Cube (half of a big size chassis)
- **Expanding the Crate family by new, small size chassis**
  - 1 U and 3 U versions with horizontal module orientation



3U MTCA.4 Crate with Front to Rear Cooling

3U MTCA.4 Crate with Front to Rear Cooling

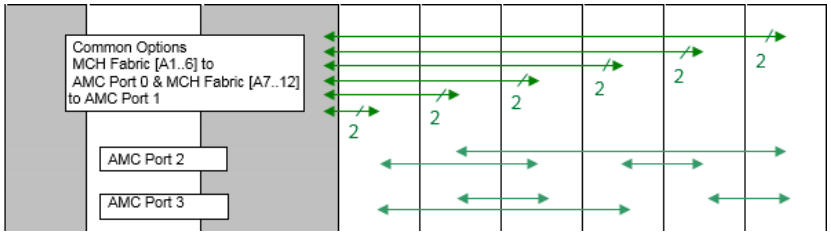
- **3U MTCA.4 crate**
- **4x Double Mid-size AMC slots with RTM, 1x Double Mid-size and 1x Double Full-size AMC Slot**
- **1x Double Full-size MCH slot and 2x Double Full-size PM Slots in the rear**
- **Optional built in JSM module at the rear**
- **Front pluggable air filter**
- **Front to Rear Cooling**
  - 2x counter rotating fans at the chassis back side in one pluggable cooling unit
  - 3rd fan with second CU EMMC can be installed on request for enhanced cooling

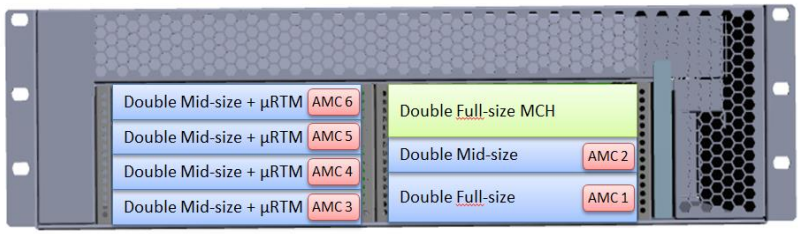


3U MTCA.4 Crate with Front to Rear Cooling

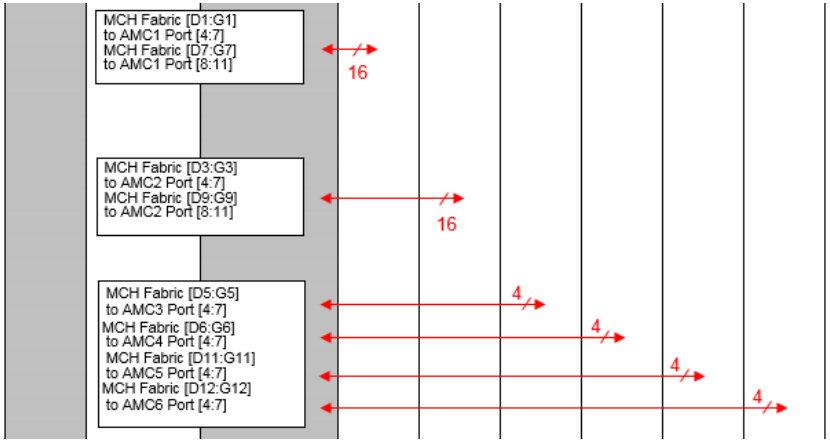
➢ Backplane Topology, 2 versions available

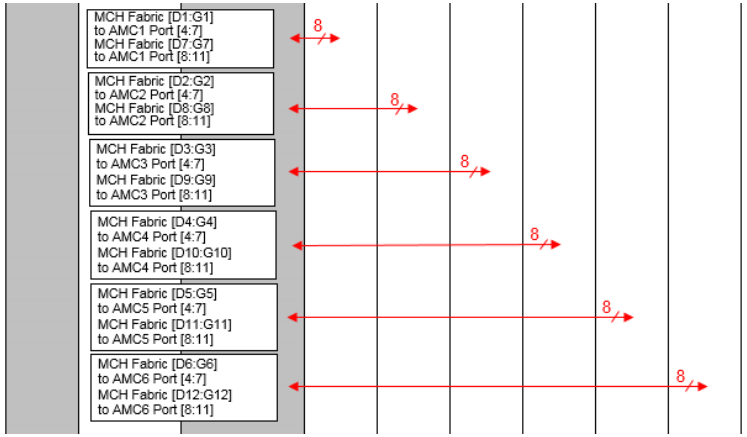
- Both versions have 2x GbE connections on AMC port 0 & 1 and direct interconnects in the storage interface (Port 2 & 3)





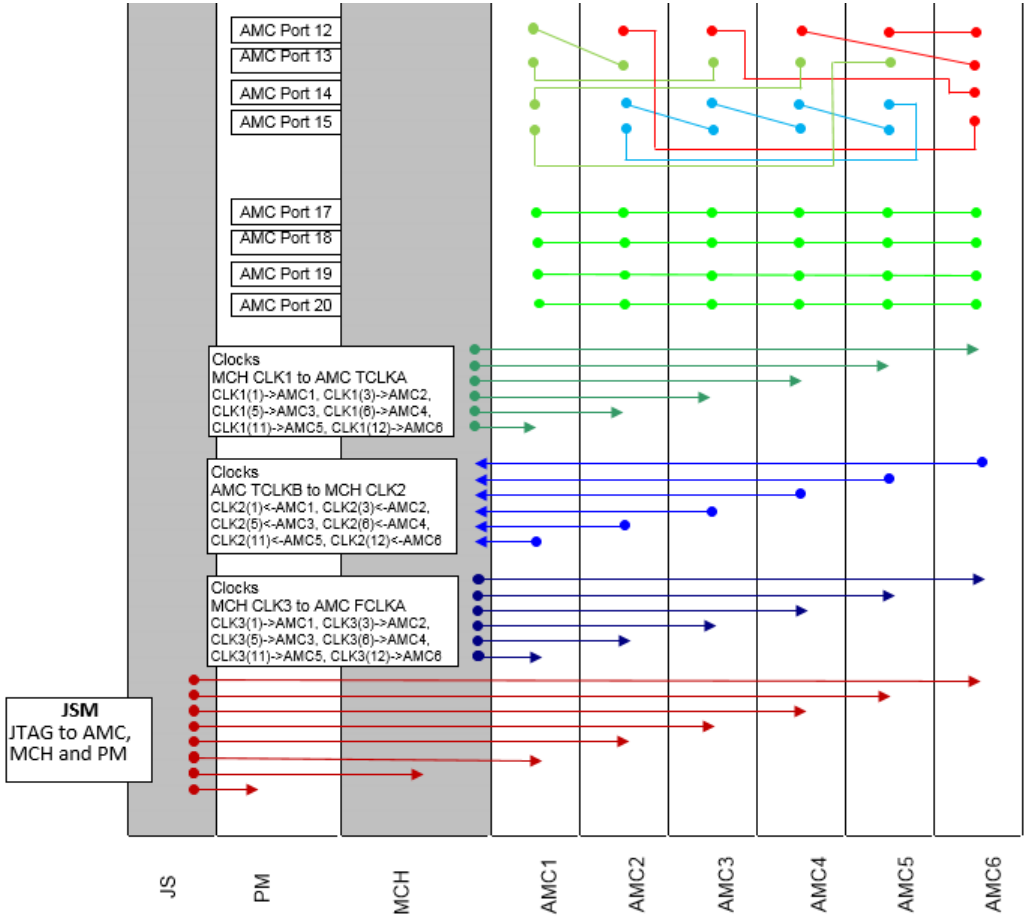
- 2 x16 links in the one backplane, all AMC‘s with x8 links in the other version





3U MTCA.4 Crate with Front to Rear Cooling

- Port 12 to 20 connections, CLK‘s and JSM similar on both backplanes

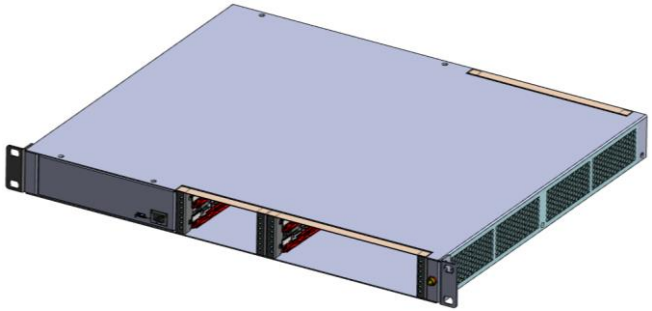


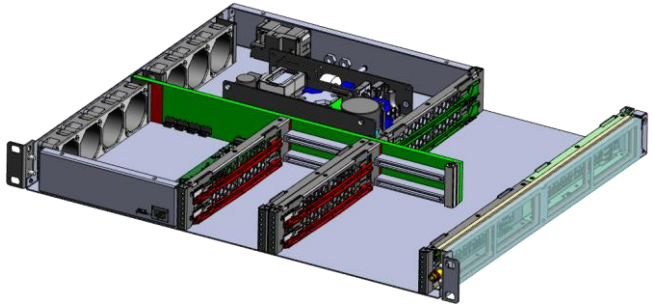
1U MTCA.4 Crate with eMCH

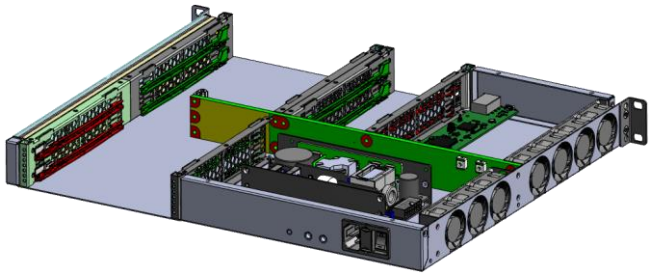
Launch in Q1 / 2019

1U MTCA.4 Crate with eMCH

- 1U MTCA.4 Crate
- 2x Double Mid-size AMC slots with RTM, 2x Single Mid-size AMC Slots
- 1x embedded MCH and integrated 400W PSU
- Wide range AC input at the rear
- Air flow from right to left
- Air filter in air inlet section



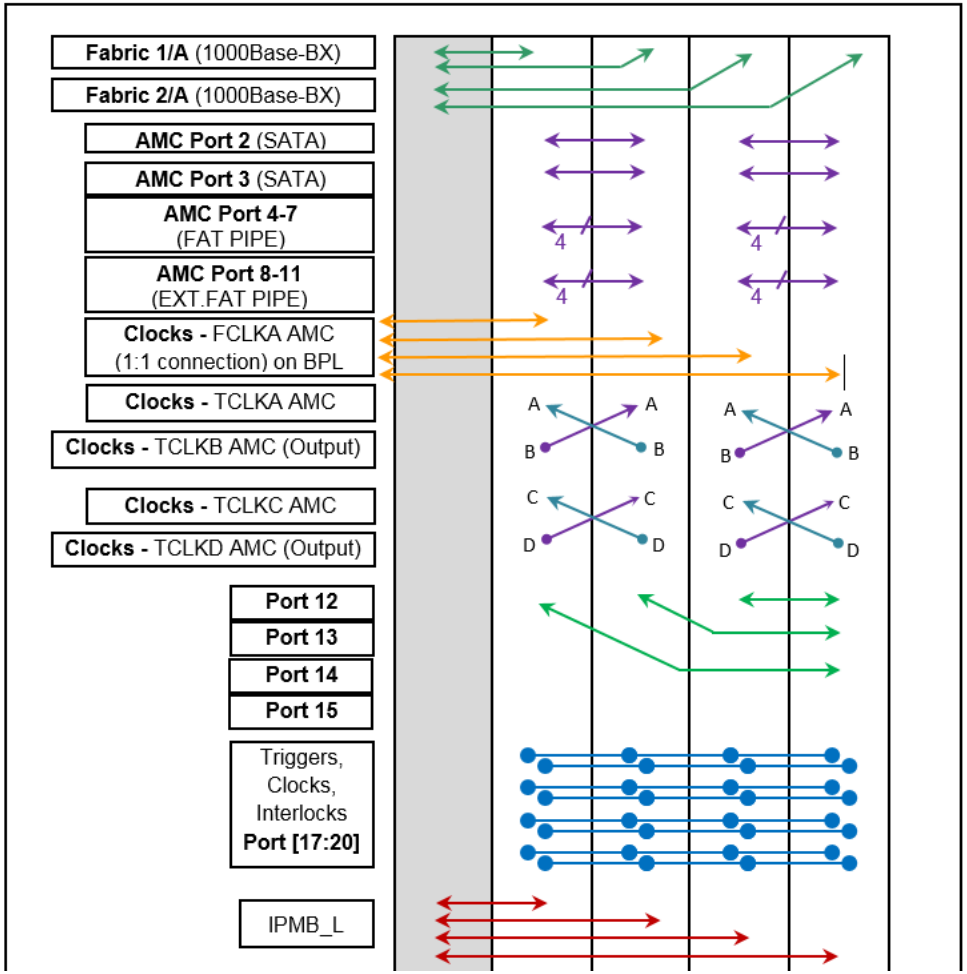




1U MTCA.4 Crate with eMCH

Backplane Topology

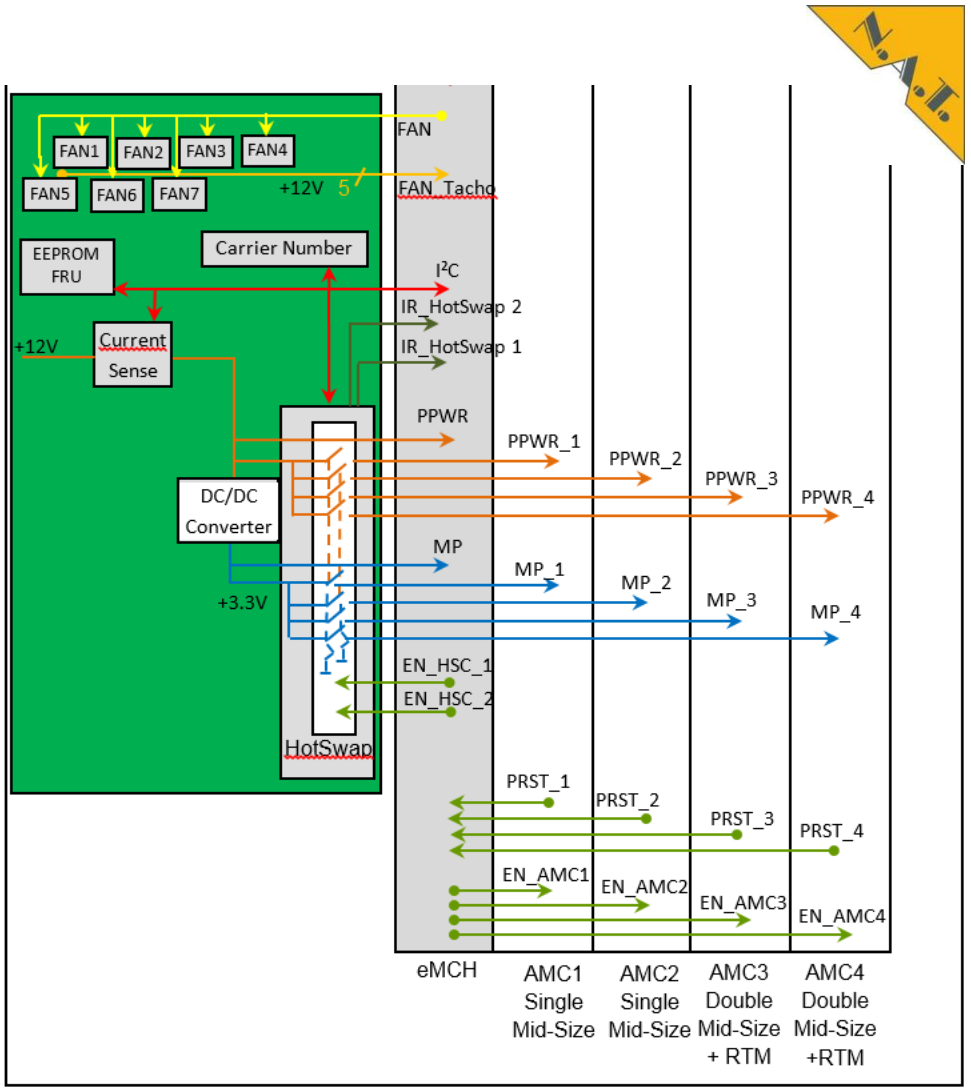
- 1x GbE to each AMC port 0
- Direct interconnects on port 2 & 3 between AMC‘s
- Direct fat pipe connections between AMC‘s (Both Double Modules connected together and both Single modules as well)
- PCIe CLK (Gen3) generated on BPL
- Telecom CLK‘s cross connected
- Port 12 to 14: Star routing from Double Mid-size module to all other AMC slots
- Port 17 to 20 lines in accordance to MTCA.4 specification



1U MTCA.4 Crate with eMCH

➢ Embedded NAT MCH, easy to service

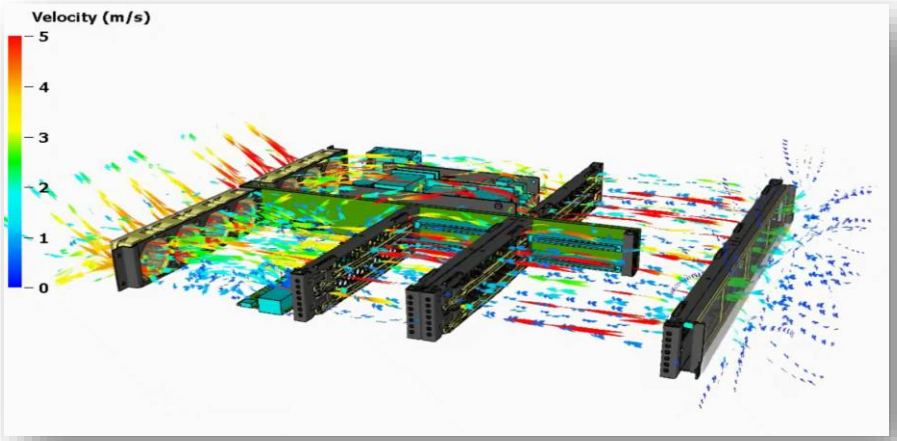
- 1GbE switch for Base Fabric and 1GbE Uplink at chassis front panel
- Management and fault isolation for built-in power supply, fans and AMCs according to PICMG MTCA.0 Rev. 1
- Allows system integration into existing management architectures, i.e. SNMP, RMCP
- Configuration through web interface
- Fully compatible with NAT-MCH
- Life-long free firmware update service
- NATview-EASY included

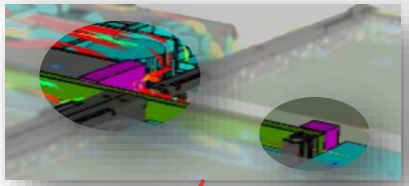


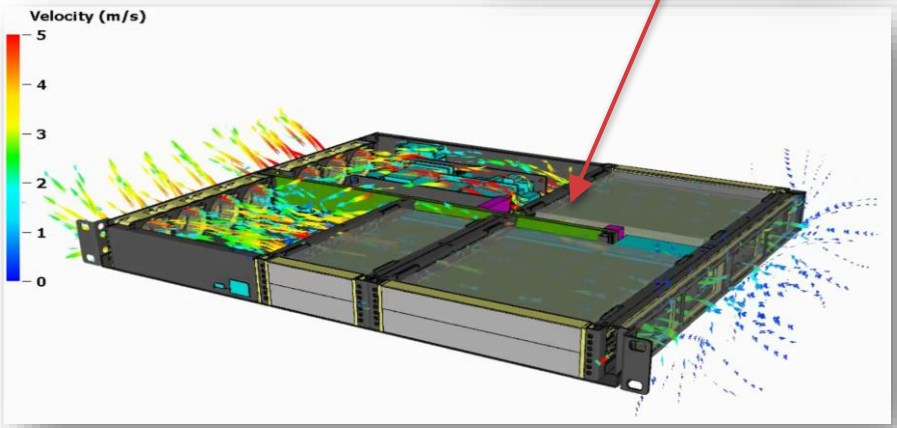
1U MTCA.4 Crate with eMCH

➢ Thermal Simulation

- Measuring velocity (air flow) in m/s
- Using air impedance „blocks“ to simulate the worst case impedance of installed AMC modules
- Optimizing air flow by movement of components (i.e. PSU) or add air blockers to achieve homogenious air distribution
- Simulation with 80 W per Double AMC + RTM and 50 W per Single AMC
- Result: 2 Versions will get launched
  - Low noise version for lab environment (<30°C)
  - High performance version for environmental temperatures up to 55°C







Thank you